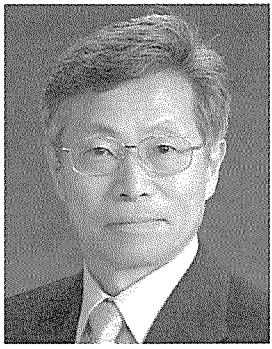
業績目録（野澤庸則）

野澤庸則教授業績目録

平成17年3月
東北大学史料館
（著作目録第929号）



野 澤 庸 則 教 授 略 歴

生年月日　昭和17年１月15日生
本 籍 地　宮城県
所　　属　大学院工学研究科

学　歴

昭和40年３月　東京工業大学理工学部化学工学科卒業
昭和42年３月　東京工業大学大学院理工学研究科
　　化学工学専攻修士課程修了
昭和45年３月　東北大学大学院理学研究科化学専攻博士課程修了

職　歴

昭和45年４月　東北大学非水溶液化学研究所助手
昭和47年９月～昭和48年８月　ＮＩＨ国際博士研究員
　　（カルフォルニア大学（バークレー））
昭和48年12月　東北大学非水溶液化学研究所助教授
昭和53年～54年　東北大学教養部講師兼務
昭和61年８月　アリゾナ州立大学（テンピ）客員研究教授（３月）
昭和62年８月　アリゾナ州立大学（テンピ）客員研究教授（１月）
昭和63年３月　東北大学工学部教授
昭和63年12月　ドイツＭＰＩ（マーチンスリード）客員研究員（１月）
平成１年７月　ドイツＭＰＩ（マーチンスリード）客員研究員（１月）
平成６年　東北大学理学部講師兼務（２年）
平成７～13年　東北大学学際科学研究センター兼務
平成９年～16年　八戸工業高等専門学校非常勤講師
平成９年４月　東北大学大学院工学研究科教授
平成13年　一関工業高等専門学校非常勤講師（１年）

平成15年　名古屋大学大学院理学研究科非常勤講師（１年）
平成16年４月　大学評価・学位授与機構特任教授兼務（１年）
平成17年３月　東北大学大学院工学研究科を定年退職（予定）

学　位

昭和40年３月　工学士（東京工業大学）
昭和42年３月　工学修士（東京工業大学）
昭和45年３月　理学博士（東北大学）

学内における活動

全学関係

平成７～15年　東北大学遺伝子実験施設運営委員会委員
平成７～13年　東北大学全学教育科目教科目系会議委員
平成９～13年　東北大学全学教育理科実験実施委員会委員長
平成９～14年　東北大学全学教育審議会委員
平成13～14年　東北大学全学教育審議会実験科目委員会専門委員
平成13～15年　東北大学遺伝子実験施設運営委員会調査委員会委員長
平成15年　東北大学学務審議会委員

学部・研究科関係

平成４～５年　工学部共通講義専門委員会委員
平成４～５年　工学部施設環境整備委員会委員
平成４～５年　学部・大学院制度委員会委員
平成５～13年　組み換えＤＮＡ安全主任者
平成６年　工学部教務委員会委員（編入学委員会委員長）
平成６年　工学研究科教務委員会委員
平成７年　工学研究科生物化学工学学科長，生物工学専攻主任
平成７年　工学研究科大学評価委員会委員
平成６～11年　工学部研究教育安全委員会委員
平成10～13年　学部・大学院制度委員会（H13，制度ＷＧ長）
平成９～11年　工学研究科技術組織検討委員会副委員長
平成13～14年　工学研究科教務委員会副委員長
平成14～16年　工学研究科教務委員会委員長
平成14～16年　学科長・専攻主任会議委員
平成14～16年　工学研究科大学評価委員会委員

学科関係

平成６，７年　工学研究科重点化対応委員会委員
平成６～８年　化学・バイオ系学科教務委員会委員
平成６～13年　化学・バイオ系安全管理整備委員会委員
平成６～13年　化学・バイオ系研究基盤強化ＷＧ委員
平成６～13年　化学・バイオ系キャンパスリニューアルＷＧ委員
平成６～13年　化学・バイオ系機器センター運営委員会委員長
平成７，８年　化学・バイオ系高校生・受験生対応委員会委員長
平成７，８年　化学・バイオ系共通経費小委員会委員

平成12～14年　化学・バイオ系ＪＡＢＥＥ対応ＷＧ委員

受　賞

昭和48年４月　日本化学会進歩賞
平成13年４月　日本化学会学術賞

学会等における活動（役職等）

昭和63年　石油学会誌編集委員
平成１年～　生化学会評議員
平成５年　日本化学会東北地区学会賞選考委員会委員長
平成６年～８年　日本高分子学会東北支部幹事
平成８年～10年　日本生物物理学会東北支部長，本部運営委員
平成10年～　電気化学協会東北支部幹事

社会における活動

昭和63年　東北地区バイオインダストリー振興会議　第３部会副部会長
平成７～９年　学術審議会専門委員（科学研究費分科会）
平成７年～10年　日本学術審議会化学工学研究連絡委員会委員
平成12年～16年　仙台市科学館協議会委員

業　績　目　録

Ⅰ．著書・編書（共著書等含む）

1. ヘムおよびヘムタンパク質のＭＣＤ［化学増刊76 ヘムタンパク質の化学Ⅰ－4 化学同人（1969),］野澤庸則

2. 金属蛋白質の円偏光二色性（ＣＤ）と磁気円偏光二色性（ＭＣＤ）［蛋白質 核酸 酵素 別冊 26巻 金属蛋白質とそのモデルⅠ（執筆担当部分）共立出版株式会社（1983)］野澤庸則

3. 光合成系の構造と機能［生命化学の基礎5 生体分子系を測る第4章　学会出版センター（1986)］野澤庸則

4. 光合成菌の薄膜構造と機能デザイン［バイオ高分子研究法2生体膜複合体と合成膜の機能デザイン第4章　学会出版センター（1988)］野澤庸則

5. 光合成細菌クロマトフォア膜顆粒によるリン酸化反応のＮＭＲによる解析［新タンパク質応用工学（執筆担当部分）第5章，第2節　フジ・テクノシステム（1996)］野澤庸則

6. 固体高分解能ＮＭＲによるクロロゾームおよびBChlc会合体の解析［新タンパク質応用工学（執筆担当部分）第11章第11節　フジ・テクノシステム（1996)］野澤庸則

7. IN SITU MEASUREMENTS OF ENZYME ACTIVITIES BY NMR.［NMR in Microbiology: Theory and Applications, Horizons Scientific Press,(2000)］（執筆担当部分）Zheng-Yu Wang, Tsunenori Nozawa

8. 光合成反応中心－電子の源流.［シリーズ・ニューバイオフィジックス 2－1 電子と生命 新しいバイオエナジェティックスの展開（執筆担当部分）共立出版株式会社（2000)］野澤庸則

9. タンパク質［ライフサイエンス系の高分子化学（執筆担当部分），第2章，三共出版（2004)］野澤庸則，大友征宇

Ⅱ．研究報告書（科研費報告書など）

1. 光合成アンテナの構築原理の解明とその光エネルギー獲得系への応用，平成4年度科学研究費補助金，一般研究（Ｃ），研究成果報告書（課題番号03650638)，平成5年3月

2. 二次元直線および円偏光二色性分光計の試作とその生体分子系への応用，平成7年度科学研究費補助金，試験研究（B），研究成果報告書（課題番号06555257），平成8年3月

3. 光合成反応の機構解明とその応用－エネルギー産生生体膜の機能構造の解明と応用，平成8年度科学研究費補助金，基盤研究（B）（2），研究成果報告書（課題番号07455437），平成9年3月

4. 光合成反応の分子機構解明，光捕獲活性，二酸化炭素固定活性の基礎機構，学際科学研究センター研究プログラム最終報告書（平成10年度から平成12年度），平成13年6月

5. 均一標識試料による固体高分解核磁気共鳴法を用いた生体分子のインタクト構造解析，平成12年度科学研究費補助金，基盤研究（B）（2），研究成果報告書（課題番号12450341），平成14年3月

6. 溶液高分解能核磁気共鳴法と固体法の融合による膜内アンテナタンパク質の構造機能解明，平成15年度科学研究費補助金，基盤研究（B）（2），研究成果報告書（課題番号15350096），平成17年3月（予定）

Ⅲ．研究論文（単独執筆・共同執筆）

1. Catalytic Activity of Some Chelate Polymers Derived from Cupric Ion and Polymeric Ligands Having Hydroxamic Acid Groups, [Makromol. Chem. 112, (1968), 73-83] Tsunenori Nozawa, Yoshinori Nose, Masahiro Hatano and Shu Kambara,

2. Formation of Poly(Acrylhydroxamic Acid)-Copper Chelates, [Makromol. Chem.115, (1968), 1-9] Masahiro Hatano, Tsunenori Nozawa, Takayuki Yamamoto and Shu Kambara

3. Catalytic Effects of Poly(Acrylhydroxamic Acid)-Copper Chelates, [Makromol. Chem. 115, (1968), 10-16] Masahiro Hatano, Tsunenori Nozawa, Takakazu Yamamoto and Shu Kambara

4. Side Chain Effects on the Helix Stability of Poly-α-amino Acids, [J. Am. Chem. Soc. 91, (1969) 2165-2166] Masahiro Hatano, Michio Yoneyama, Ichi Itho, Tsunenori Nozawa and Michio Nakai

5. The Asymmetrically-selective Oxidation Reaction of 3,4-Dihydroxyphenylalanine Catalyzed by the Poly-L-lysine-copper(II) Complex [Bull. Chem. Soc. Jpn., 43, (1970), 295] Masahiro Hatano, Tsunenori Nozawa, Michio Yoneyama

6. Apical Interaction in the Copper(II) Complex of L-Alanineamide with Diethylenetriamine, [J. Am. Chem. Soc., 92, (1970), 5768-5769] Tasuku Murakami, Tsunenori Nozawa, and Masahiro Hatano

7. Formation and Properties of Poly-L(DL)-lysine-copper(II) Complexes, [Makromol. Chem., 141, (1971), 1-9] Masahiro Hatano, Tsunenori Nozawa, Sakuzi Ikeda and Takakazu Yamamoto

8. The Catalytic Activity of the Poly-L-lysine-copper(II) Complex on the oxidation of 3,4-Dihydroxyphenylalanine, [Makromol. Chem., 141, (1971), 11-19] Masahiro Hatano, Tsunenori Nozawa, Sakuzi Ikeda and Takakazu Yamamoto

9. The Asymmetric Structures of the Poly-L-lysine copper(II) Complex, [Makromol. Chem., 141, (1971), 21-29] Tsunenori Nozawa and Masahiro Hatano

10. The Mechanism in the Asymmetrically Selective Oxidation of 3,4-Dihydroxyphenylalanine Catalyzed by the Poly-L-lysine-copper(II) Complex, [Makromol. Chem., 141, (1971), 31-41] Tsunenori Nozawa and Masahiro Hatano

11. The Asymmetrically Selective Hydrolysis of Phenylalanine Esters Catalyzed by Poly-L-lysine-copper(II) Complexes, [Makromol. Chem., 158, (1972), 21-26] Tsunenori Nozawa, Yoshihiro Akimoto and Masahiro Hatano

12. On the Mechanism of the Stereoselective Hydrolysis of Phenylalanine Esters Catalyzed by Poly-L-lysine copper(II) Complexes, [Makromol. Chem., 161, (1972), 289-291] Tsunenori Nozawa, Yoshihiro Akimoto and Masahiro Hatano

13. The pH-dependent Variation of the Absorption and Circular Dichroism Spectra in Some Ternary Mixed Complexes of Copper(II) Containing Diethylenetriamine and Optically Active Amino Acids, [Bull. Chem. Soc. Jpn., 46, (1973), 2456-2459] Tasuku Murakami, Tsunenori Nozawa and Masahiro Hatano

14. Circular Dichroism and Magnetic Circulara Dichroism of the Haemin-Poly-L-lysine Complex System, [Polymer, 15, (1974), 330-334] Seigo Yamamoto, Tsunenori Nozawa and Masahiro Hatano

15. The Circular Dichroism and Magnetic Circular Dichroism Spectra of Bis(stilbenediamine)nickel(II) Complexes, [Bull. Chem. Soc. Jpn., 47, (1974), 2643-2646] Sumio Arakawa, Tsunenori Nozawa and Masahiro Hatano

16. Studies on the Charge-Transfer Band in High Spin State of Ferric Myoglobin and Hemoglobin by Low Temperature Optical and Magnetic Circular Dichroism Spectroscopy, [Biochim. Biophys. Acta, 405, (1975), 122-135] Satoshi Yoshida, Tetsutaro Iizuka, Tsunenori Nozawa and Masahiro Hatano

17. Magnetic Circular Dichroism Studies of Hepatic Microsomal Cytochrome P-450, [Biochemistry, 14, (1975), 4172-4178] Toru Shimizu, Tsunenori Nozawa, Masahiro Hatano, Yoshio Imai and Ryo Sato

18. Magnetic Circular Dichroism on the Reversible Oxygenation of Dimethylmesoporphyrin-IX-atopyridinecobalt(II), [Bioinorg. Chem., 5, (1975), 267-273] Tsunenori Nozawa, Masahiro Hatano, Haruhiko Yamamoto and Takao Kwan

19. Magnetic Circular Dichroism of Heme-Isocyanide Complex in Aqueous Media, [Bioinorg. Chem., 6, (1976), 1-9] Toru Shimizu, Tsunenori Nozawa and Masahiro Hatano

20. Magnetic Circular Dichroism of Protoporphyrin Derivatives in the Ultraviolet Region, [Bioinorg. Chem., 6, (1976) 77-82] Toru Shimizu, Tsunenori Nozawa and Masahiro Hatano

21. Magnetic Circular Dichroism Studies of Pyridine-Heme Complexes in Aqueous Media, [Bioinorg. Chem., 6, (1976) 119-131] Toru Shimizu, Tsunenori Nozawa and Masahiro Hatano

22. Infrared Magnetic Circular Dichroism of Myoglobin Derivatives, [Biochim. Biophys. Acta, 427, (1976), 28-37] Tsunenori Nozawa, Takao Yamamoto and Masahiro Hatano

23. Magnetic Circular Dichroism Studies on Horseradish Peroxidase, [Biochim. Biophys. Acta, 427, (1976), 652-662] Tsunenori Nozawa, Nagao Kobayashi and Masahiro Hatano

24. Magnetic Circular Dichroism of Myoglobin-Thiolate Complexes; [Biochim. Biophys. Acta, 434, (1976), 126-136] Toru Shimizu, Tsunenori Nozawa and Masahiro Hatano

25. Catalytic Activity of Poly-α, L-amino Acid-Metal Ion Complexes; New Approaches to Enzyme Models, [Metal Ion in Biological Systems, 5, (1967), 245-277] Masahiro Hatano and Tsunenori Nozawa

26. Magnetic Circular Dichroism Spectroscopy of Myoglobin Complexes; Correlation with Heme Spin State and Axial Ligation, [J. Am. Chem. Soc., 98, (1976), 343-350] Larry Vickery, Tsunenori Nozawa and Kenneth Sauer

27. Magnetic Circular Dichroism Studies of Low-Spin Cytochromes; Temperature Dependence and Effects of Axial Coordination on the Spectra of Cytochrome c and Cytochrome b, [J. Am. Chem. Soc., 98, (1976), 351-357] Larry Vickery, Tsunenori Nozawa and Kenneth Sauer

28. Core Structure of Iron-Sulfur Complexes from Magnetic Circular Dichroism, [Chem. Lett., (1976), 1373-1378] Tsugufumi Muraoka, Tsunenori Nozawa and Masahiro Hatano

29. Magnetic Circular Dichroism Studies on Acid and Alkaline Forms of Horseradish Peroxidase, [Biochim. Biophys. Acta, 493, (1977), 340-351] Nagao Kobayashi, Tsunenori Nozawa and Masahiro Hatano

30. The Interaction between the Heme c and Heme b Moieties of *Pseudomonas* Nitrite Reductase as Revealed by Magnetic Circular Dichroism and Natural Circular Dichroism, [Biochem. Biophys. Res. Commun., 76, (1977), 983-988] Yutaka Orii, Hideo Shimada, Tsunenori Nozawa, and Masahiro Hatano

31. LCAO MO SCF π-Electron Calculations on the Magnetic Circular Dichroism of Porphin, Protoporphyrin and Porphyrin a, [Chem. Phys. Lett. 52, (1977), 154-160] Akira Kaito, Tsunenori Nozawa, Takao Yamamoto, Masahiro Hatano and Yutaka Orii

32. MCD Spectra of Iron-sulfur Complexes with or without Inorganic Sulfur, [Bioinorg. Chem., 8, (1978), 45-59] Tsugufumi Muraoka, Tsunenori Nozawa and Masahiro Hatano

33. Magnetic Circular Dichroism of *Pseudomonas putida* Cytochrome P-450 in Near Infrared Region, [Biochim. Biophys. Acta, 534, (1978), 285-294] Tsunenori Nozawa, Toru Shimizu, Masahiro Hatano, Hideo Shimada, Tetsutaro Iizuka, and Yuzuru Ishimura

34. Magnetic Circular Dichroism Approach to Hemoprotein Analyses, [Advances in Biophys., 11, (1978), 95-149] Masahiro Hatano and Tsunenori Nozawa

35. Circular Dichroism Spectra of Purified Cytochrome P-450 from Rabbit Liver Microsomes, [Biochim. Biophys. Acta, 579, (1979), 122-133] Toru Shimizu, Tsunenori Nozawa, Masahiro Hatano, Haruhiko Satake, Yoshio Imai, Chikako Hashimoto and Ryo Sato

36. Magnetic Circular Dichroism Studies on Cytochrome Oxidase and Heme a Derivatives, [Cytochrome Oxidase, (1979), 117-128] Tsunenori Nozawa, Yutaka Orii, Akira Kaito, Takao Yamamoto and Masahiro Hatano

37. Bacteriochlorophyll-a-Type in Chromatophore and Subchromatophore Preparations from *Rhodopseudomonas sphearoides*, [J. Biochem., 86, (1979), 1411-1417 (1979)] Hidenori Hayashi, Shigehiro Morita, Masahiro Hatano and Tsunenori Nozawa

38. Magnetic Circular Dichroism on Oxygen Complexes of Hemoproteins; Correlation between Magnetic Circular Dichroism Magnitudes and Electronic Structures of Oxygen Complexes, [Biochim. Biophys. Acta, 626, (1980), 282-290] Tsunenori Nozawa, Nagao Kobayashi, Masahiro Hatano, Motoji Ueda and Masaru Sogami

39. Visible and Near-infrared Magnetic Circular Dichroism Spectra of High Spin Iron(II) Complexes of Protoporphyrin-IX-dimethylester; Characterization of Charge Transfer Bands of High Spin Heme, [J. Inorg. Biochem., 12 (1980), 253-267] Tsunenori Nozawa, Satoshi Ookubo and Masahiro Hatano

40. Variety in the Optical Properties of Bacteriochlorophyll Protein Complexes from Photosynthetic Bacteria. [Photosynthesis, 3, (1981), 513-522] Sigehiro Morita, Hidenori Hayashi, Mitsue Miyao, Tsunenori Nozawa and Masahiro Hatano

41. New Type of Rapid Scanning Circular Dichroism Spectropolarimeter Using an Acoustic Optical Filter. [Rev. Sci. Instr., 52, (1981), 1311-1316] Masahiro Hatano, Tsunenori Nozawa, Shigeyuki Kimura, Takashi Takakuwa, Nobuyuki Sakayanagi, Tsutomu Yano and Akinori Watanabe

42. Near-infrared Magnetic Circular Dichroism Studies on Iron(III) Horse Heart Cytochrome c. [Bull. Chem. Soc. Jpn., 54, (1981), 919-920] Nagao Kobayashi, Tsunenori Nozawa and Masahiro Hatano

43. Magnetic and Natural Circular Dichroism Spectra of Cytochrome P-450$_{11\beta}$ and P-450scc Purified from Bovine Adrenal Cortex. [Biochim. Biophys. Acta, 669, (1981), 46-59] Toru Shimizu, Tetsutaro Iizuka, Fumiko Mitani, Yuzuru Ishimura, Tsunenori Nozawa and Masahiro Hatano

44. Magnetic Circular Dichroism Studies of Cytochrome P-450cam; Characterization of Axial Ligands of Ferric and Ferrous Low-spin Complexes. [Biochim. Biophys. Acta, 670, (1981), 341-354] Toru Shimizu, Tetsutaro Iizuka, Hideo Shimada, Yuzuru Ishimura, Tsunenori Nozawa and Masahiro Hatano

45. Circular Dichroism of Bacteriochlorophyll a in Light Harvesting Bacteriochlorophyll Protein Complexes from *Chromatium vinosum*. [J. Biochem., 89, (1981), 1853-1861] Hidenori Hayashi, Tsunenori Nozawa, Masahiro Hatano and Shigehiro Morita

46. The High Spin Species in Solution of Deuterohemin with Two Imidazoles Covalently Linked to Porphyrin Ring and Its Equilibrium with the Low Spin Species. [Chem. Lett., (1981), 1405-1408] Kazuo Okuyama, Tsunenori Nozawa, Tasuku Murakami and Masahiro Hatano

47. Magnetic Circular Dichroism Spectra of Models for the Reduced Cytochrome P-450cam and Its Oxygenated Form. [Chem. Lett., (1981), 1625-1628] Satoshi Ookubo, Tsunenori Nozawa and Masahiro Hatano

48. Non-destructive Detection of Methionine Sulfoxide in the Resilium of a Surf Clam by Solid-state ^{13}C-NMR Spectroscopy. [Eur. J. Biochem., 125, (1982), 575-577] Yasuo Kikuchi, Nobuo Tamiya, Tsunenori Nozawa and Masahiro Hatano

49. Structural Elucidation of Talopeptin(MK-I); A Novel Metalloproteinase Inhibitor Produced by *Streptomyces mozunensis* MK-23. [Tetrahedron Letters, 23, (1982), 2319-2322] Kenichi Fukuhara, Sawa Murao, Tsunenori Nozawa and Masahiro Hatano

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